



## PATENT ABSTRACTS OF JAPAN

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(54) LIQUID CRYSTAL DISPLAY DEVICE AND  
DISPLAY

director directions 9 and 10.

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(57) Abstract:

**PROBLEM TO BE SOLVED:** To provide a liquid crystal display device which can nearly eliminate retardation with a selected finite voltage.

**SOLUTION:** The liquid crystal display such as a display includes a twisted liquid crystal layer 6 which has the surface director direction 9 of a 1st surface 7 set to a 1st direction and the surface director direction 10 of a 2nd surface 8 set to a 2nd direction which is different from the 1st direction and not vertical. The twisted liquid crystal layer 6 is provided, for example, between a linear polarizing plate 11 and a reflecting plate 12. A phase difference plate 5 is arranged between the twisted liquid crystal layer 6 and polarizing plate 11 to compensate the remaining retardation of the liquid crystal layer 6 when a 1st voltage is applied to the twisted liquid crystal layer 6. For example, the phase difference plate 5 has retardation nearly equal to the remaining retardation and an optical axis perpendicular to the bisector of the angle between the surface

